

of hydrochloric acid, for example is sprayed onto the treated surface, which is then left for a predetermined period of time, for example, five to ten minutes. As the result of the first step, urinary stain which is calcium stain adherent to the treated surface dissolves in the aqueous solution of hydrochloric acid, breaking away from the treated surface. Thereafter, the treated surface is wiped away with a wet duster. In this case, the treated surface may be polished with a brush made from abrasive-containing nylon (commercial name of "Tinex" produced by Dupont).

The acidic liquid combines with the hydroxyl group on the treated surface such that stain due to silicic acid which cannot be removed by an ordinary cleaning work is eliminated. For this purpose, the pretreatment step further includes a second step in which the treated surface is rubbed with an abrasive containing alumina powder as a main component. In this case, it is effective to firstly rub the treated surface with the abrasive and thereafter polish the treated surface with water resistant sand paper (#1000). As a result, a silicic acid is reproduced on the treated surface. The dyeing agent is sprayed onto the treated surface again so that whether stain due to silicic acid has been eliminated can be ascertained. After the dyeing agent is washed away, the treated surface is washed with the wash water and wiped away with a wet duster. The treated surface is further wiped away with a dry duster. The wash water is drained from the water reservoir and thereafter, the treated surface is dried with a dryer or the like. The treated surface is then wiped away using an organic solvent such as ethanol. The treated surface is further dried with the dryer so that the organic solvent is volatilized.

After the pretreatment step as described above, a layer comprising the stain resistant agent is formed on the treated surface in the same manner as in the test example 1, whereupon the Western style flush toilet treated for stain resistance is
5 obtained.

The stain resistant effect was compared among the Western style flush toilet of the fifth embodiment, a Western style flush toilet of compared case 1 in which a layer comprising the stain resistant agent is formed on the treated surface without execution
10 of the pretreatment step, and a Western style flush toilet of compared case 2 to which neither pretreatment step nor stain resistant treatment is applied. In the comparison, stain due to silicic acid was artificially caused to adhere to each toilet. For the purpose of the artificial adherence of silicic acid, an
15 aqueous solution containing 200 p.p.m. sodium silicate was prepared and the glazed layers of the respective products were immersed in the solution at 70°C for three hours in the same manner as in the aforesaid fur resistant test. Consequently, silicic acid stain did not adhere to the Western style flush toilet of
20 the fifth embodiment. On the other hand, silicic acid stain adhered to each of the Western style toilets of compared cases 1 and 2.

Furthermore, durability of the layers of the flush toilet of the fifth embodiment and compared case 1 was evaluated. In
25 the evaluation, the same location of each layer was rubbed with a commercially available brush in the same manner as in the aforesaid wear resistance test. The relationship between the number of times of rubbing and a contact angle of water was examined.

FIG. 22 shows the results of the examination.

FIG. 22 shows that the water repellency of the layer is not almost reduced in the flush toilet of the fifth embodiment even when the number of times of rubbing is increased. FIG. 22 further shows that the water repellency of the layer is reduced to a large extent in the flush toilet of compared case 1 even when the number of times of rubbing is small. For example, in case that each layer is rubbed ten times per cleaning and the cleaning is carried out four times a week, the same location of the layer is rubbed 2000 times in about 50 weeks in one year. That is, a period of use is 2.5 years when the number of times of rubbing is 5000. The period of use is 5 years when the number of times of rubbing is 10000. Thus, the layer of the flush toilet of the fifth embodiment can achieve high durability.

Although the abrasive agent is used to eliminate the silicic acid stain in the foregoing embodiments, acid ammonium fluoride or hydrofluoric acid may be applied to the treated surface and thereafter, the treated surface may be washed.

The foregoing embodiments are illustrative and the present invention may be enforced in various forms modified without departing from the scope thereof.

INDUSTRIAL APPLICABILITY

The ceramic product of the present invention can accordingly achieve a high stain preventive effect. Further, the method of stain resistant treatment of the present invention can bestow a high stain preventive effect on the ceramic product.